

# PATENT SPECIFICATION

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## PROVISIONAL SPECIFICATION.

### Improvements in or relating to Ventilating and Disinfecting Apparatus.

We, WILFRID STANLEY LEECH, of 32, Norwood Road, Southport, and ALEC EDWARD SHERMAN, of 1, De Quincey Road, Tottenham, London, British subjects, do hereby declare the nature of this invention to be as follows:—

This invention has reference to ventilating and disinfecting apparatus and has for its object to provide improved means whereby vitiated or spent air within a building, room or like situation may be thoroughly circulated, purified and disinfected.

According to this invention a current of air is drawn by a fan into contact with disinfectant or deodorant vapours arising from a vapouriser wherein are vapourised one or more suitable essential oils, liquids, perfumes, disinfectants, antiseptics or deodorants with or without the addition of water, which is or are delivered in regulated supply and/or proportions to the vapouriser.

One arrangement of apparatus in accordance with the invention comprises a casing wherein is mounted an electric motor upon the armature shaft of which is fixed a suitable fan, and said casing is provided with suitable inlet and outlet ports or apertures through which the fan may pass the air of the building or the like through the casing.

Suitably mounted within the casing are also two or more receptacles provided with drip feed regulating devices of any well-known type, and adapted to discharge their contents in drops through suitable tubes or ducts into a mixing chamber, preferably of conical section which is mounted above an evaporating plate or dish of suitable shape heated by means of an electric heater.

In operation, essential oils, liquid perfumes, disinfectants or deodorants, antiseptics and the like are placed in the said receptacles, one of said receptacles being

reserved for water if necessary for effectual evaporation, and the regulators of the drip feed devices leading from said receptacles are adjusted to give the desired proportions of the mixture to be vapourised. The drops of the component liquids of said mixture pass along their respective tubes or ducts into the conical mixing chamber where they are thoroughly mingled and from which the mixture is preferably passed in individual drops upon the heated evaporated plate or dish hereinbefore referred to.

The electric fan is so arranged as to draw vitiated or spent air from the building or the like through the casing of the apparatus into contact with the vapours arising from the evaporating plate or dish which are thereby conducted away and forced out of the casing back into the building or the like.

If desired, the fan might be arranged to draw fresh air from the outer atmosphere, and after the same has been treated in the manner hereinbefore described, pass the same out into the building, room or the like.

Windows or sight glasses may be provided in the walls of the casing for the purpose of facilitating the inspection and regulation of the drip feed devices of the receptacles for which may be employed, if desired, ordinary drip feed lubricators of the well-known type.

Means may be provided for regulating the speed of the electric fan and the heat of the electric heating device, and such means may consist of rheostats and/or switches mounted upon the casing, which latter may be partially detachable in order to render the interior thereof accessible.

Dated this 26th day of January, 1927.  
HEYS, SON, DAVIES & PATTISON,  
Agents for the Applicants.

## COMPLETE SPECIFICATION.

### Improvements in or relating to Ventilating and Disinfecting Apparatus.

We, WILFRID STANLEY LEECH, of 32, Norwood Road, Southport, and ALEC EDWARD SHERMAN, of 1, De Quincey Road, Tottenham, London, British sub-  
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jects, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The invention has reference to ventilating and disinfecting apparatus of the type wherein a current of the air to be purified is drawn by a fan into contact with disinfectant and/deodorant vapours arising from a vapouriser wherein are vapourised one or more essential oils, perfumes, disinfectants, antiseptics, and/or deodorants.

In some forms of apparatus of the said type, as heretofore proposed, a disinfectant or other liquid is fed from a reservoir in regulated supply upon the heated floor of a mixing-chamber which constitutes the vapouriser.

In another proposed form of vapourising apparatus, a current of heated air is passed through a mass of absorbent material or wick, which is kept moist by a regulated supply of volatile liquid fed from a reservoir.

In a further form of apparatus of such type, a plurality of vapourisers are fed by means of a corresponding number of wicks from a common supply tank.

The object of the present invention is to provide an improved apparatus of the type referred to.

In an apparatus of the type referred to, according to the invention, the essential oils, disinfectants and/or the like, in liquid form, and water, are each delivered in regulated supply to a mixing-chamber, whence they are led to a vapouriser.

One embodiment of the invention is illustrated in the accompanying drawings, whereof Fig. 1 is an elevation thereof and Fig. 2 a horizontal section thereof taken on the line II—II of Fig. 1.

Referring to the drawings, 3 represents a casing within which is detachably secured by means of wing bolts and nuts 4, a frame 5 between the stirrup-shaped members 6a of which is mounted an electric motor 6. Upon the armature shaft of the motor is fixed a fan 7 arranged to draw in air through apertures provided in the bottom of the casing 3 and to expel it through the grid-like top or lid 3a thereof.

Mounted upon the frame 5 are two receptacles 8 provided with drip feed regulating devices 9 of any well-known type, and adapted to discharge their contents in drops through suitable tubes or ducts 11 into a conical mixing chamber 12, which is mounted above an evaporating plate or dish 13 of suitable shape heated by means of an electric heater, comprising e.g. coiled elements 14 of

resistance wire concentrically arranged below the dish 13.

In operation, essential oils, liquid perfumes, disinfectants or deodorants, antiseptics and the like or mixtures thereof, are placed in one of the receptacles 8, and water, for effectual evaporation, is placed in the other and the regulators of the drip feed devices 9 are adjusted to give the desired proportions of the mixture to be vapourised. The drops of the component liquids of said mixture pass along their respective tubes or ducts 11 into the conical mixing chamber 12 where they are thoroughly mingled and from which the mixture falls in drops upon the heated evaporating plate or dish 13 and is vapourised.

The vitiated or spent air drawn by the fan from the building or the like into the casing 3, through the inlets at the bottom thereof, mixes with and absorbs the vapours arising from the evaporating plate or dish 13 and is thereby purified and then passes through the top 3a of the casing back into the building or the like.

If desired, the fan may be arranged to draw fresh air direct from the outer atmosphere e.g. by connecting the lower portion of the casing therewith by means of a suitable conduit, and after the air has been treated in the manner hereinbefore described, pass the same out into the building, room or the like.

Windows or sight glasses 15 are provided in the walls of the casing for the purpose of facilitating the inspection and regulation of the drip feed devices 9 of the receptacles 8, for which may be employed, if desired, ordinary drip feed lubricators of the well-known type.

Means may be provided for regulating the speed of the electric fan 7 and the heat of the electric heating device 14, and such means may consist of rheostats and/or switches mounted upon the casing 3.

It will be understood that the number of receptacles 8 and drip-feed devices 9 will be modified to suit requirements, each of such drip-feed devices being provided with a tube 11 leading to the conical mixing chamber 12.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. An apparatus of the type referred to, wherein the essential oils, disinfectants and/or the like in liquid form, and water, are each delivered in regulated supply to a mixing-chamber, whence they are led to a vapouriser, substantially as herein set forth.

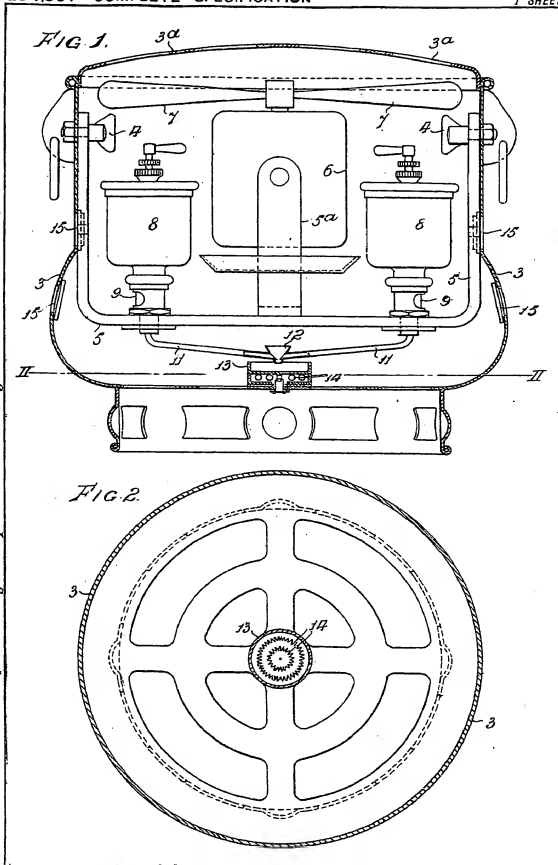
2. An apparatus according to the preceding claim, wherein the mixing-chamber is of conical formation and delivers the mixture to the vapouriser in drops, substantially as herein set forth.  
5 3. The improved ventilating and disinfecting apparatus, constructed, arranged

and operating substantially as herein described and illustrated in the accompanying drawings.

Dated this 26th day of October, 1927.  
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51, Deansgate Arcade, Manchester,  
Agents for the Applicants.

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*[This Drawing is a reproduction of the Original on a reduced scale.]*



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